

3. We Can Invent

Classroom Activity:

To create, investigate, design and manufacture an original invention. Students are asked to identify specific considerations in the actual manufacture of their product and to note patterns that arise during the inventing process.

Grade: 3

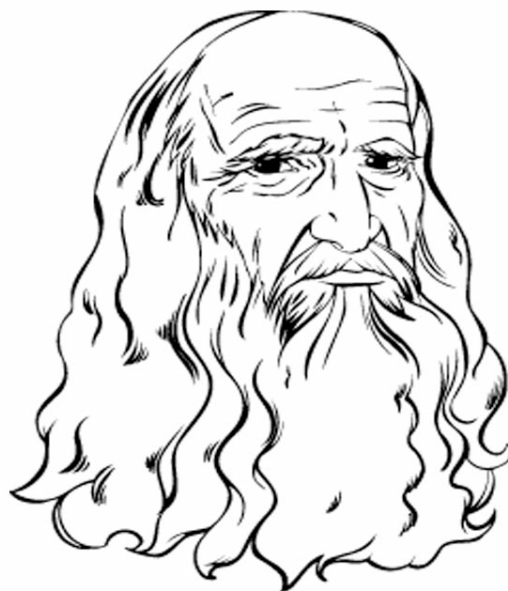
Strand(s): Understanding Structures and Mechanisms

This task addresses the following overall expectations:

- investigate strong and stable structures to determine how their design and materials enable them to perform their load-bearing function;
- demonstrate an understanding of the concepts of structure, strength, and stability and the factors that affect them.

and the following specific expectations:

- follow established safety procedures during science and technology investigations;
- investigate, through experimentation, how various materials and construction techniques can be used to add strength to structures;
- investigate, through experimentation, the effects of pushing, pulling, and other forces on the shape and stability of simple structures;
- use technological problem-solving skills and knowledge acquired from previous investigations, to design and build a strong and stable structure that serves a purpose;
- use appropriate science and technology vocabulary, including compression, tension, strut, ties, strength, and stability, in oral and written communication;
- use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes.



Leonardo da Vinci

Assessment Categories

- Thinking and Investigation
- Communication

Cross-discipline connections:

- Language
- History
- Social Science

Type of Activity: Classroom

Preparation: varies

Time needed to complete the task: varies

Materials/Resources for teachers:

Teachers resource book for the "We Can Invent" unit

Materials/Resources for students:

Teacher-prepared information

Material to make their inventions

3. We Can Invent (continued)

Activity Description:

Discuss as a whole class:

- The invention process: brainstorming, sketching ideas, prototyping etc.
- Ideas for possible products and inventions
- Materials that would be required

List the inventions, products and materials on the black-board

Divide students into groups to create, investigate, design and manufacture an original invention. The culmination of the activity is to construct a prototype of their invention for marketing.

Tips:

Arrange to display the inventions at a school or community event, or at a local office building or public space.